

CLAIMS

1. In combination:

2 a first tubular element having a first axis, a first portion with a radially
outwardly facing surface and a first connecting assembly at a first circumferentially
4 facing surface; and

a second tubular element having a second portion with a second axis, a
6 radially inwardly facing surface, and a second connecting assembly with a second
circumferentially facing surface,

8 the first portion extendable within the second portion so that the radially
inwardly facing surface on the second tubular element surrounds the radially
10 outwardly facing surface on the first tubular element,

the first and second tubular elements positionable in a first relative axial
12 position wherein relative movement of the first and second tubular elements
around the first and second axes between a) a first relative rotational position and
14 b) a second relative rotational position causes the first and second connecting
assemblies to cooperate to draw the first and second portions axially towards each
16 other,

the first and second connecting assemblies cooperating so that the first and
18 second circumferentially facing surfaces confront each other with the first and

second tubular elements in the second relative rotational position to thereby block
20 relative movement of the first and second tubular elements from the second
relative rotational position back into the first relative rotational position.

2. The combination according to claim 1 wherein one of the first and
2 second connecting assemblies comprises a first radially extending projection and
the other of the first and second connecting assemblies has a first groove in which
4 the first projection guidingly moves as the first and second tubular elements are
changed between the first and second relative rotational positions.

3. The combination according to claim 1 wherein the first portion has
2 a first radially outwardly extending projection and the second portion has a first
groove in which the first projection guidingly moves as the first and second tubular
4 elements are changed between the first and second relative rotational positions.

4. The combination according to claim 3 wherein the second portion
2 has a first radially inwardly extending projection which extends into the first groove
and as the first and second tubular elements are changed from the first relative
4 rotational position into the second relative rotational position the first radially
outwardly extending projection and first radially inwardly extending projection

6 interact so that at least one of a) the first radially outwardly extending projection
deforms radially inwardly and b) the first radially inwardly extending projection
8 deforms radially outwardly to allow the first radially outwardly extending projection
and first radially inwardly extending projection to move past each other in a
10 circumferential direction to thereby allow the first and second circumferential facing
surfaces to confront each other.

5. The combination according to claim 4 wherein the second portion
2 has a second radially inwardly extending projection which extends into the first
groove and defines a third circumferentially facing surface facing in the same
4 circumferential direction as the second circumferentially facing surface, the first
and second tubular elements repositionable from the first relative rotational
6 position past the second relative rotational position to a third relative rotational
position wherein the first and third circumferentially facing surfaces confront each
8 other to thereby block relative movement of the first and second tubular elements
from the third relative rotational position back into the second relative rotational
10 position, the first and second connecting assemblies cooperating to draw the first
and second portions axially towards each other further with the first and second
12 tubular elements in the third relative rotational position than with the first and
second tubular elements in the second relative rotational position.

6. The combination according to claim 5 wherein the first and second
2 radially inwardly extending projections define a first receptacle therebetween in
which the first radially outwardly extending projection extends with the first and
4 second tubular elements in the second relative rotational position, the first
receptacle dimensioned so that the first radially outwardly extending projection is
6 substantially blocked against movement in opposite circumferential directions
within the first groove.

7. The combination according to claim 5 wherein the second tubular
2 element has an axially extending entry groove which is contiguous with the first
groove.

8. The combination according to claim 3 wherein the first and second
2 tubular elements are positionable in a second relative axial position wherein
relative movement of the first and second tubular elements from the first relative
4 rotational position into the second relative rotational position causes the first and
second connecting assemblies to draw the first and second portions axially
6 towards each other further than with the first and second tubular elements in the

first relative axial position and the first and second tubular elements moved from
8 the first relative rotational position into the second relative rotational position.

9. The combination according to claim 8 wherein the second portion
2 has a second groove in which the first projection guidingly moves as the first and
second tubular elements are moved from the first relative rotational position into
4 the second relative rotational position with the first and second tubular elements
in the second relative axial position.

10. The combination according to claim 9 wherein the first groove has
2 a first axial rise and the second groove has a second axial rise and the first and
second axial rises are approximately equal.

11. The combination according to claim 9 wherein the second tubular
2 element has an axially extending entry groove which is contiguous with the first and
second grooves.

12. The combination according to claim 3 wherein the first portion has
2 a second radially outwardly extending projection and the second portion has a
second groove in which the second radially outwardly extending projection

4 guidingly moves as the first and second tubular elements are changed between
the first and second relative rotational positions.

13. The combination according to claim 12 wherein the first and second
2 radially outwardly extending projections are at substantially diametrically opposite
locations on the first portion.

14. The combination according to claim 12 wherein the first and second
2 radially outwardly extending projections are at substantially the same
circumferential location on the first portion.

15. The combination according to claim 3 wherein the first radially
2 outwardly extending projection has an elongate shape with a length.

16. The combination according to claim 15 wherein the length of the first
2 radially outwardly extending projection is directed in a circumferential direction at
an angle to a plane orthogonal to the second axis.

17. The combination according to claim 1 wherein the radially outwardly
2 facing surfaces on the first tubular element and radially inwardly facing surface on

the second tubular element are relatively dimensioned so that the radially
4 outwardly facing surface and radially inwardly facing surface are urged against
each other with a frictional force that is greater with the first and second tubular
6 elements in the second relative rotational position than with the first and second
tubular elements in the first relative rotational position.

18. The combination according to claim 1 herein the first and second
2 portions comprise a flexible plastic material.

19. The combination according to claim 1 wherein one of the first and
2 second tubular elements has a fitting for connection to a fluid blower.

20. The combination according to claim 19 in combination with a fluid
2 blower to which the fitting is connected so that fluid propelled by the fluid blower
is directed through the first and second tubular elements.

21. A method of joining first and second tubular elements, said method
2 comprising the steps of:

providing a first tubular element having a first axis, a first portion with a
4 radially outwardly facing surface and a first connecting assembly;

providing a second tubular element having a second axis, a second portion
6 with a radially inwardly facing surface, and a second connecting assembly;

aligning the first and second tubular elements in a preassembly state with
8 the first and second axes substantially coincident and the first portion adjacent to
the second portion;

10 relatively axially moving the first and second tubular elements from the
preassembly state towards each other into a first relative axial position; and

12 with the first and second tubular elements in the first relative axial position,
relatively moving the first and second tubular elements around the first and second
14 axes from a first relative rotational position into a second relative rotational
position, and thereby causing the first and second connecting assemblies to
16 cooperate so as to draw the first and second portions axially towards each other
with the first and second tubular elements in a second relative axial position,
18 wherein a frictional force generated between the first and second portions is
greater than with the first and second tubular elements in the first relative axial
20 position,

wherein the step of causing the first and second connecting assemblies to
22 cooperate comprises causing the first and second connecting assemblies to
cooperate to releasably block the first and second tubular elements in the second
24 relative rotational position.

22. The method of joining first and second tubular elements according
2 to claim 21 wherein the step of causing the first and second connecting
assemblies to cooperate to cooperatively releasably block the first and second
4 tubular elements in the second relative position comprises causing
circumferentially facing surfaces on the first and second connecting assemblies
6 to confront each other.

23. The method of joining first and second tubular elements according
2 to claim 21 wherein the step of causing the first and second connecting
assemblies to cooperate comprises causing a projection on one of the first and
4 second connecting assemblies to move in a groove with an axial rise on the other
of the first and second connecting assemblies.

24. The method of joining first and second tubular elements according
2 to claim 21 wherein the step of causing the first and second connecting
assemblies to cooperate comprises causing a plurality of projections to interact
4 one each with a plurality of grooves each with an axial rise.

25. The method of joining first and second tubular elements according
- 2 to claim 21 further comprising the step of operatively connecting the tubular
- element to a fluid blower so that fluid propelled by the fluid blower is directed
- 4 through the joined first and second tubular elements.